

VHF FREQUENCY-MULTIPLIER TYPE 8084

The 8084 is a 7-pin miniature, sharp-cutoff frame grid pentode designed particularly for service in mobile communication equipment as a VHF frequency multiplier. The 8084 is also suitable for VHF amplifier and oscillator circuits. The 8084 features a heater-cathode structure designed to render reliable operation when operated from a 6-cell storage battery primary power system.

ELECTRICAL

Cathode	Coated Unipotential
Heater:	
Voltage, ac or dc (Note 1)	13.5 Volts
Current	0.160 Amperes
Direct Interelectrode Capacitances (Shielded): (Note 2)	
Grid 1 to Plate	0.04 max. $\mu\mu\text{f}$
Input	8.0 $\mu\mu\text{f}$
Output	3.0 $\mu\mu\text{f}$

MECHANICAL

Bulb	T-5-1/2
Base	Miniature 7-Pin (JEDEC E7-1)
Outline	5-2
Basing	7CM
Mounting Position	Any

AMPLIFIER - CLASS A₁

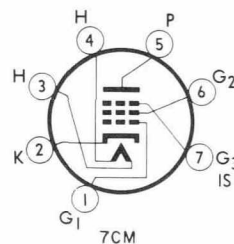
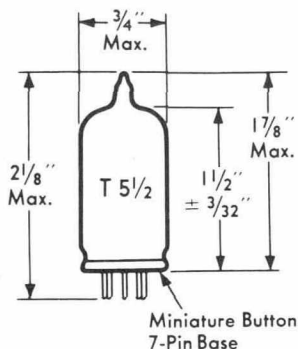
MAXIMUM RATINGS

Absolute Maximum Values

Plate Voltage	250 max. Volts
Grid 3 Voltage	0 max. Volts
Grid 2 (Screen) Supply Voltage	180 max. Volts
Grid 2 Voltage	See Grid 2 Input Rating Chart
Plate Dissipation	2.3 max. Watts
Grid 2 Dissipation	0.5 max. Watts
Grid 1 Control Grid Voltage:	
Positive Value	0 max. Volts
Cathode Current	20 max. Ma.
Heater-Cathode Voltage:	
Heater Negative with Respect to Cathode:	
Total DC and Peak	100 max. Volts
Heater Positive with Respect to Cathode:	
DC Component	50 max. Volts
Total DC and Peak	100 max. Volts

TYPICAL OPERATING CHARACTERISTICS:

Plate Voltage	125 Volts
Grid 2 Voltage	80 Volts
Grid 1 Voltage	-1 Volts
Transconductance	10500 μmhos
Grid 1 Cutoff Bias (Note 3)	-3.5 Volts
Plate Current	7 Ma.
Grid 2 Current	1.7 Ma.



Receiving Tube Section

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AMPLIFIER - CLASS C
OSCILLATOR - CLASS C
FREQUENCY MULTIPLIER - CLASS C

MAXIMUM RATINGS, CCS

Absolute Maximum Values

DC Plate Voltage	250	max.	Volts
DC Grid 3 Voltage	0	max.	Volts
DC Grid 2 Supply Voltage	180	max.	Volts
DC Grid 2 Voltage	See Grid 2 Input Rating Chart		
DC Grid 1 Voltage	-50	max.	Volts
DC Plate Current	15	max.	Ma.
DC Grid 2 Current	3	max.	Ma.
DC Grid 1 Current	1.5	max.	Ma.
Plate Dissipation	2.3	max.	Watts
Grid 2 Dissipation	0.5	max.	Watts
Grid 1 Circuit Resistance	0.1	max.	Megohms

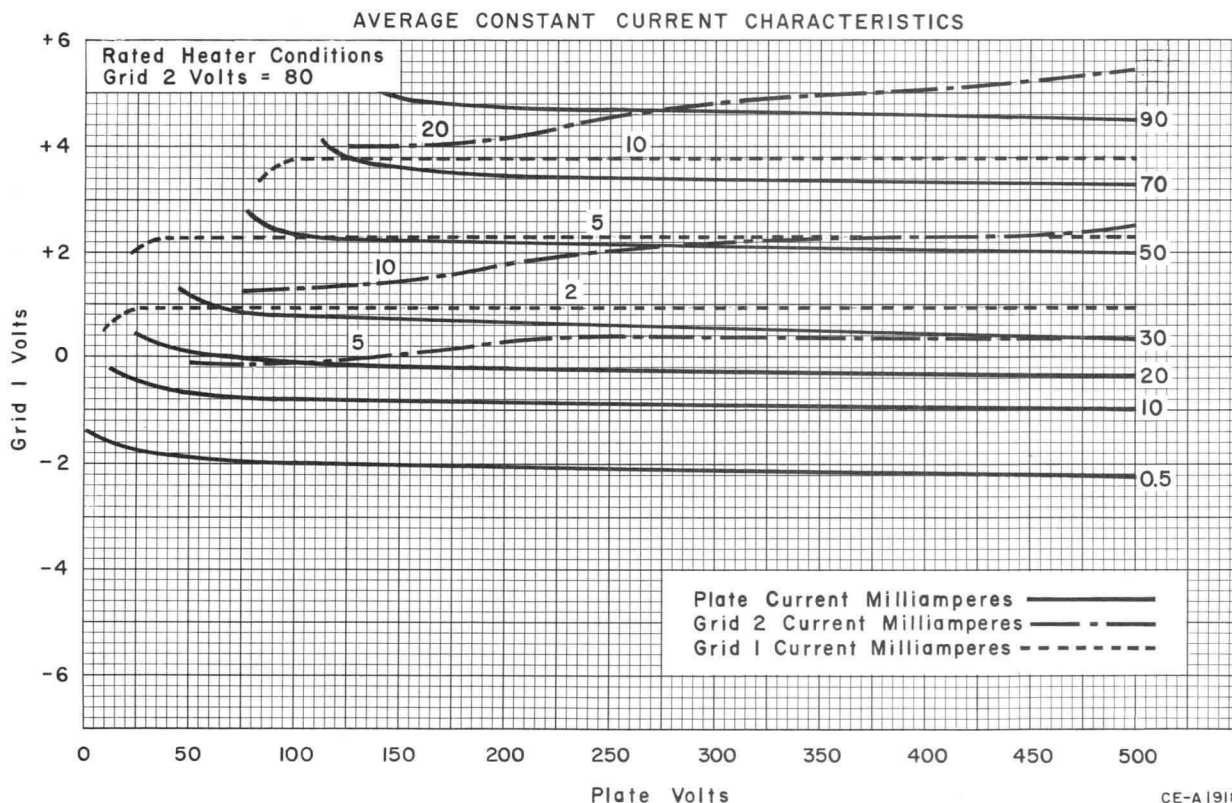
TYPICAL OPERATING CHARACTERISTICS

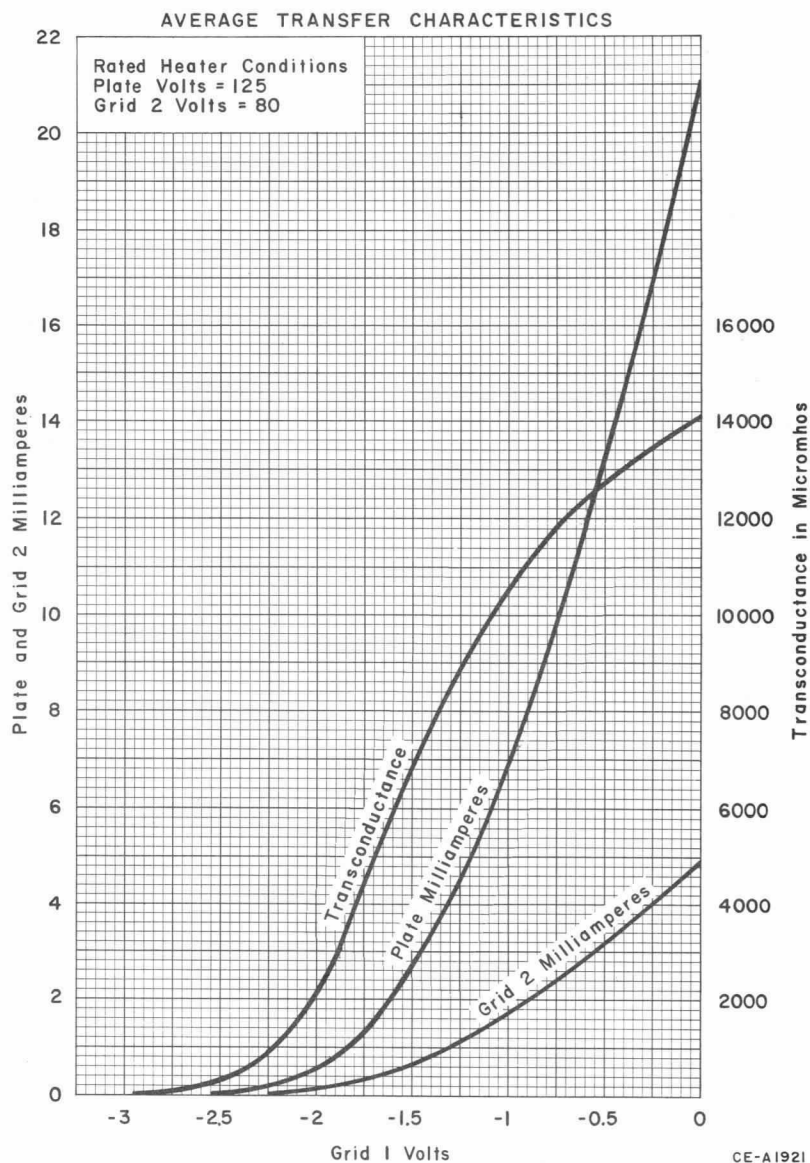
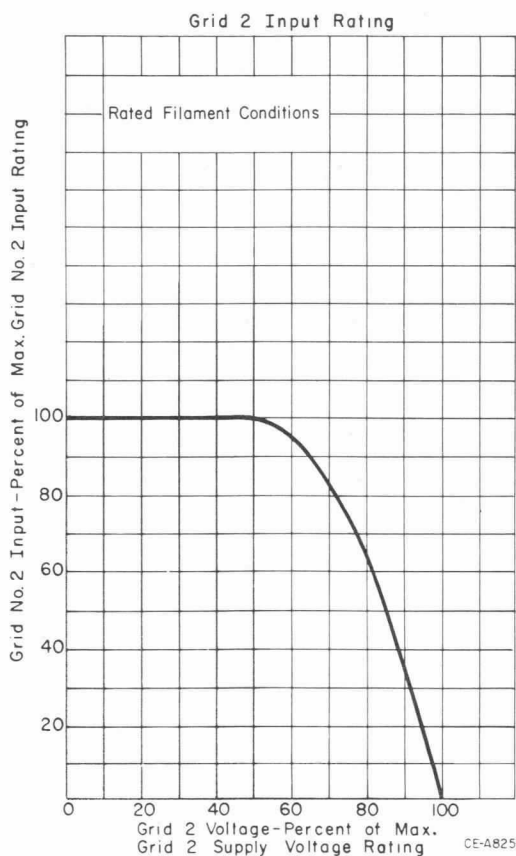
Tripler Service to 75 Mc. (Class C)

Plate Voltage	200	Volts
Grid 3 Voltage	0	Volts
Grid 2 Voltage	80	Volts
Grid 1 Voltage (Note 4)	-23	Volts
Peak RF Grid 1 Voltage	26	Volts
Plate Current	8.4	Ma.
Grid 2 Current	2.16	Ma.
Grid 1 Current (Approx.)	785	μ Amperes
Driving Power	22	Milliwatts
Power Output (Approx.)	0.45	Watts

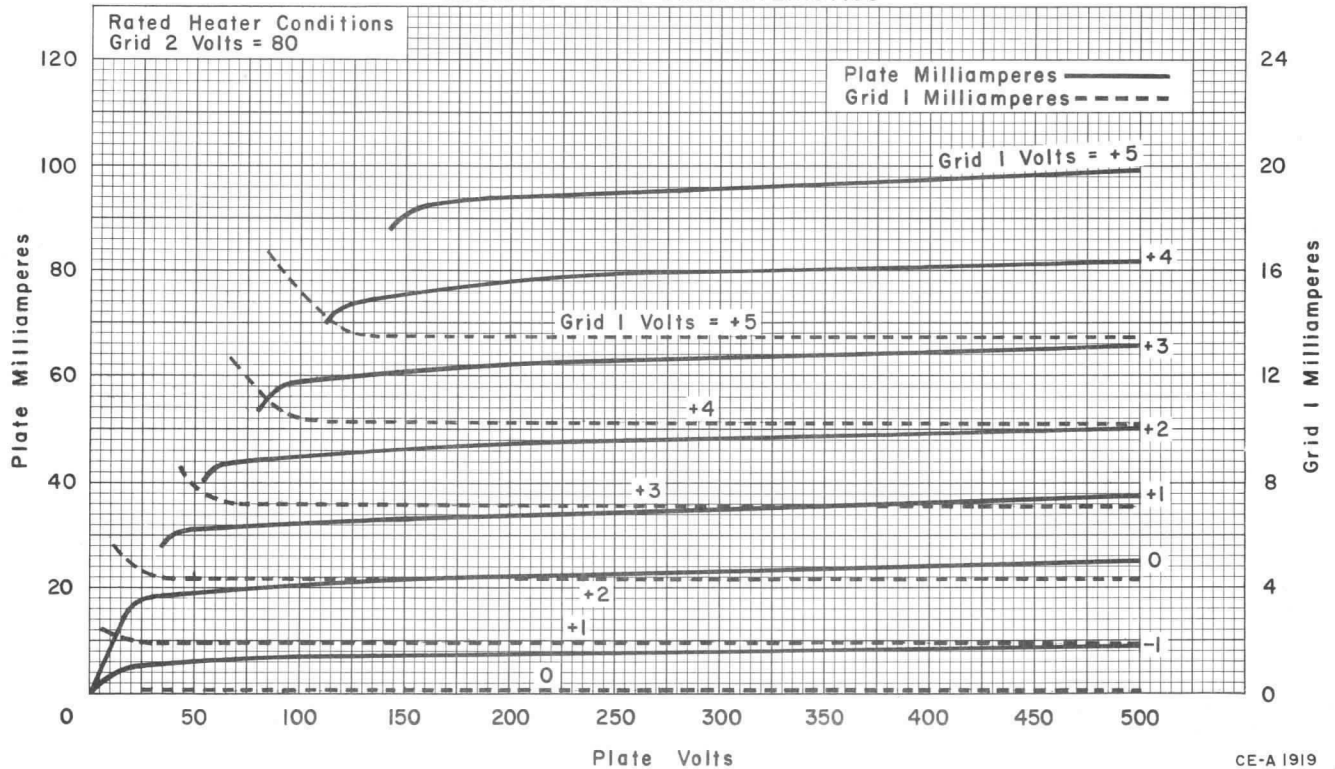
NOTES

1. Heater voltage range is 11.8 to 15.5 volts.
2. With JEDEC Shield No. 316 connected to pin 2.
3. For transconductance of 100 micromhos.
4. Developed across a grid resistor of 30,000 ohms.

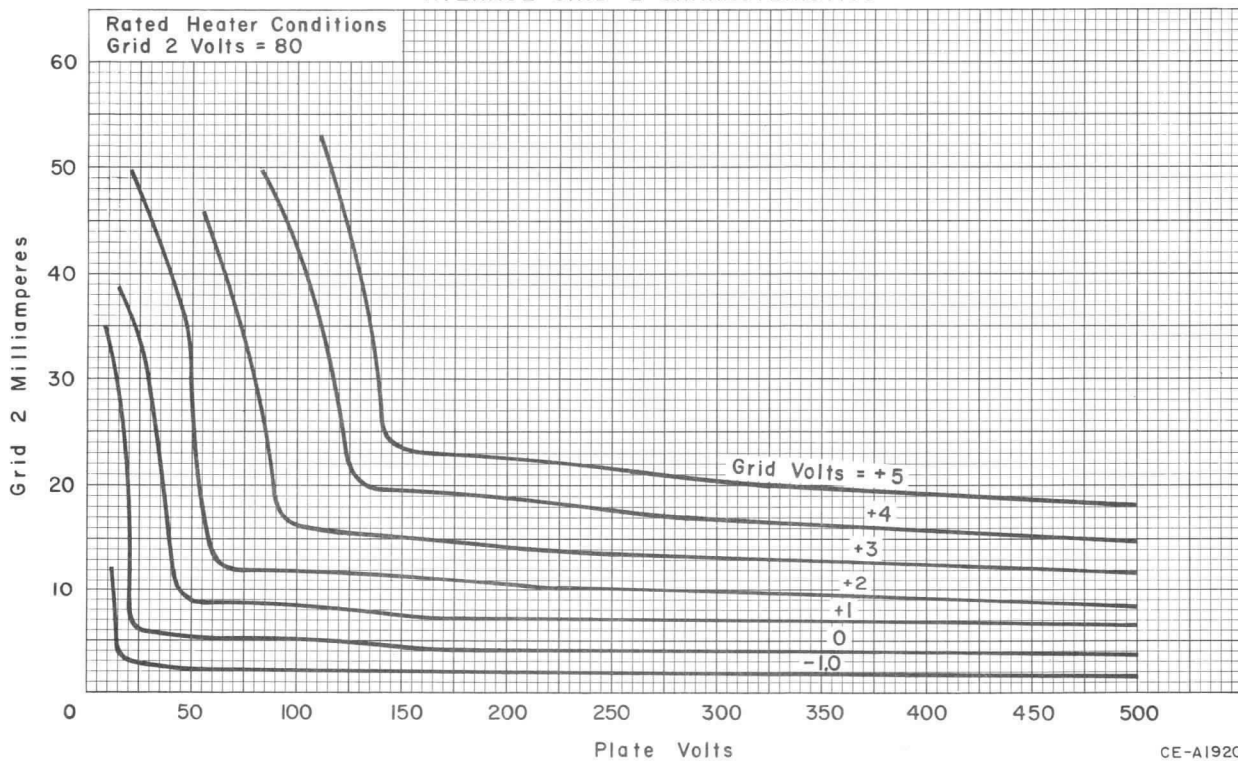




AVERAGE PLATE CHARACTERISTICS



AVERAGE GRID 2 CHARACTERISTICS



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